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7-27-80

Dear Bob,

The enclosed paper on Program Title and instructions may be of interest. It does not use anything new, but it organizes the approach for maximum advantage - 9 lines of message to start a program without use of memory capacity.

The tape demonstrates the ~~appearance~~ of the technique when the game player loads a program with this approach.

Sincerely,

Steven L Walters

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Bally Basic

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PROGRAM TITLE & INSTRUCTIONS
WITHOUT USING MEMORY

Bally Basic programs, especially games, are almost always better for the user if a title and operating instructions appear on the screen to start the operation. This allows anyone who can load the tape to use the program, without having to refer to a paper instruction sheet or previous use experience. However, there is often a frustrating trade-off between the program instructions we would like to display, and the memory capacity we finally need for the operating program.

The procedure which follows will allow you to display up to nine lines of title and/or instructional information at the beginning of your program, in a visually appealing manner, while using only 30 bytes of memory space. This contrasts with the memory space required to place nine lines of PRINT instructions in the operating program, which can be as much as 288 bytes. The saving is accomplished by recording the message directly on the tape after the operating program is recorded. When the program tape is loaded, the message appears on the screen after the program is listed, while the tape is still running and without using program memory space. The 32 bytes of memory are actually used to blank out the last screen entry - namely, :RETURN; RUN - and to use the trigger on the hand control to clear the message and start the operating program when the user is finished reading it.

Loading the Operating Program. The operating program should include the following first line:

```
10 BOX -31,-32,99,7,2; IF TR(1)#1 GOTO 10
```

This line blanks out the last line of the message - :RETURN; RUN - which is needed to close the input port and start the operating program. The program then waits for the trigger indication, as stated in the screen message display.

When the operating program is ready to record out to tape, start the output process with the following:

```
:PRINT; PRINT "BC=133"; LIST; PRINT "FC=BC"
```

Start the tape recorder running on record mode and push G0. The screen will first show BC=133 and the background color will appear. The operating program will then list in the normal way. When the listing is done, FC=BC will appear and the screen will blank to the background color.

When the screen blanks after the program listing, turn the tape recorder off immediately without entering :RETURN. Do not rewind the tape, but save it at the position it was turned off.

Loading the Message. A separate program is now used to load the message onto the tape. Push RESET to clear out the operating program and restore the black-and-white display.

Now enter the following program:

```
ANOTHER GOOD LINE 10 IN THE OPERATING PROGRAM:  
10 CY=-32; PRINT "TURN TAPE OFF."
```

```

1 .TITLE FROM TAPE:
2 .MESSAGE LOAD PROGRAM
5 CLEAR
10 PRINT "."
20 PRINT "CLEAR"
30 PRINT "FC=0"
40 PRINT "CLEAR"

50 PRINT "."
60 PRINT "."
70 PRINT "."
80 PRINT "."
90 PRINT "."
100 PRINT "."
110 PRINT "."
120 PRINT "."
130 PRINT ".TO START-PULL TRIGGER"
140 PRINT ":RETURN; RUN"

```

All message lines (Line 50 thru Line 130) must be used to be compatible with the box instruction in Line 10 of the operating program. If you don't need all eight lines, write PRINT only in any unused line to leave a blank space on the screen.

When the Message Load Program is ready to record onto tape (with your title and message in Line 50 thru Line 120), record out to tape using the following:

:PRINT; RUN

Then start the tape player on record mode at the spot where you turned it off, and press 60.

As soon as :RETURN; RUN appears on the screen from the PRINT instruction in Line 140, turn the tape recorder off without entering :RETURN.

The program tape is now complete with the non-memory message. As the tape is played back into the Bally, the background color appears, the operating program lists, the screen blanks, and then the title and message appear. As soon as you see :RETURN; RUN appear on the screen at the bottom of the message and then blank out, the tape player can be turned off, although letting the tape player continue to run has no further effect on the Bally.

* * * * *

The Message Load Program functions as follows:

Line 10 prints a period at the beginning of the message output. A static glitch is usually picked up by the tape when the tape recorder is turned off and then on between the recording of the operating program and the recording of the message. When the tape is played into the Bally later, Line 10 may be interrupted by a WHAT? inquiry. In any event, it is not visible on the screen (since FC=BC at this point) and Line 10 allows the glitch to be passed, followed by Line 20 which clears the input. Thus, when Line 30 restores the two-color screen, it is clear of any material: FC=0 will appear on the screen at this point and Line 40 immediately clears it leaving the screen clean for the message.

Lines 50-130 now display the title and message on a clear screen. When this is done, Line 140 closes the input port and starts the operating program running at Line 10, where the box instruction immediately blanks out :RETURN; RUN, leaving the title and message on the screen. Line 10 then awaits the trigger indication from the user, when he has finished reading the message and is ready to proceed.

> BC=133

1 .TITLE FROM TAPE:

2 .DEMO 7-5-80

3 .BY S. WALTERS

10 CY=-32;PRINT "TURN OFF TAPE.

20 IF TR(1)#1GOTO 20

30 CLEAR

50 PRINT "THIS IS BEING

60 PRINT "PRINTED BY THE PROGRAM

70 PRINT "IN MEMORY. THE TITLE

80 PRINT "AND OPERATING INFORMATION

90 PRINT "CANNOT BE RE-DISPLAYED

100 PRINT "WITHOUT RE-LOADING THE

110 PRINT "TAPE.",

120 FOR N=1TO 20STEP 2

130 BOX 0,-20,N,N,3

140 NEXT N

> FC=BC

: RETURN 3 RUN

2
Walter

What is on tape ?

: RETURN ; RUN ? here

. **TITLE FROM TAPE**

. THIS IS BEING PRINTED

. BY INPUT DIRECT FROM THE

. TAPE, WITHOUT USING ANY

. MEMORY. THIS COULD BE

. THE TITLE & INSTRUCTIONS

. FOR A PROGRAM.

. TO START THE PROGRAM,

. PULL TRIGGER NO. 1

TURN OFF TAPE